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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,427	07/27/2001	Patrice P. Parent	104017.160	8846

7590
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08/05/2005

EXAMINER

PYZOCHA, MICHAEL J

ART UNIT	PAPER NUMBER
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2137

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,427

Applicant(s)

PARENT, PATRICE P.

Examiner

Michael Pyzocha

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2137

DETAILED ACTION

1. Claims 1-28 are pending.
2. Amendment filed 07/15/2005 has been received and considered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Flaherty (US 6275824) and further in view of Ng (US 6268850).

As per claim 1, O'Flaherty discloses an internal security method for a relational database system (Fig 1 item 152), comprising the steps of: determining which data information from the total amount of data information stored in system databases is restricted data information that shall not be accessible by each and every 1 to N system users, where N is an integer greater than 1; (see column 5 lines 32-40, column 4 lines 8-18,

Art Unit: 2137

column 4 lines 27-29) determining for each system user the restricted data information that such a system user shall have access; (see column 4 lines 49-60) creating at least one relational access table with each system user having at least one record in the relational access table that is keyed to that system user's access to the restricted data information that was determined at step (b); (see column 4 lines 7-18) each system user accessing restricted data information stored in the system databases according to the relational access table created at step (c) (see column 4 lines 32-34).

O'Flaherty fails to disclose the use of a foreign key in the table that is linked to a primary key associated with the system user's table.

However, Ng teaches the use of such a foreign key (see column 2 lines 10-20 and column 4 line 50 through column 5 line 16).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use Ng's foreign key in the relational database system of O'Flaherty.

Motivation to do so would have been to associate a row in one table to one or more rows in another table (see Ng column 2 lines 10-20).

Art Unit: 2137

As per claim 2, the modified O'Flaherty and Ng system teaches about TERADATA, capable to generate SQL queries (see O'Flaherty column 7 lines 55-63). TERADATA is a Relational database/structured query language database.

As per claim 3, the modified O'Flaherty and Ng system discloses each relational access table has a foreign key that relates to a primary key of only one system user (see Ng column 2 lines 10-20 and column 4 line 50 through column 5 line 16).

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified O'Flaherty and Ng system as applied to claim 1 above, and further in view of Date, C.J., An Introduction to Database Systems, 7th edition, May 2000.

As per claim 4, the modified O'Flaherty and Ng system fails to disclose a relational access table created at step (c) may have access to additional restricted data information added to it by updating the relational access table after it is created.

According to Date, Update is expressed in the SQL language (Page 4 No. 5), SQL is an industry standard query language used in relational database.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Date's Update (addition) instruction with the modified O'Flaherty and Ng system, because Update (addition) is a

Art Unit: 2137

standard SQL instruction and using an update instruction would make O'Flaherty's database changeable.

As per claim 5, the modified O'Flaherty and Ng system fails to disclose a relational access table created at step (c) may have access to certain restricted data information deleted from it by updating the relational access table after it is created.

According to Date, Delete is expressed in the SQL language (Page 4 No. 5) and SQL is an industry standard query language.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Date's Delete instruction with the O'Flaherty's system, because Delete is a standard SQL instruction and using an Delete instruction would make the modified O'Flaherty and Ng system's database changeable.

6. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified O'Flaherty and Ng system as applied to claim 1 above, and further in view of Utley, Craig, Designing the Star Schema Database, 02/02/2001.

As per claim 6, the modified O'Flaherty and Ng system fails to disclose a relational database system that incorporates the internal security method that includes a star schema configuration. According to Craig - the Star Schema database is an OLAP (Online Analytical Processing) system (Page 1 paragraph

Art Unit: 2137

4). As OLAP uses a large scale of indexing, it is very convenient for data retrieval (Page 6 paragraph 1 line 4-15, Page 1 paragraph 4 line 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interconnect the modified O'Flaherty and Ng system's databases in a star schema configuration as taught by Utley because it would have made the data retrieval much faster and more efficient.

As per claim 7, the modified O'Flaherty and Ng system fails to disclose a relational database system that incorporates the internal security method that includes a full star schema configuration. According to Craig - the Star Schema database is an OLAP (Online Analytical Processing) system (Page 1 paragraph 4). As OLAP uses a large scale of indexing, it is very convenient for data retrieval (Page 6 paragraph 1 line 4-15, Page 1 paragraph 4 line 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interconnect the modified O'Flaherty and Ng system's database in a full star schema configuration as taught by Utley because it would have made the data retrieval much faster and more efficient.

7. Claims 8-10, 15-17, 22-24 are rejected under 35

U.S.C. 103(a) as being unpatentable over the modified O'Flaherty

Art Unit: 2137

and Ng system as applied to claim 1 above, and further in view of Deinhart et al (US 5911143).

As per claims 8, 15 and 22, the modified O'Flaherty and Ng system discloses steps a and b as in claim 1 above; to determine the hierarchical level of access for each system user with regard to the restricted data information; (see O'Flaherty 10 lines 49-57); the first and second system users accessing restricted data information stored in the system databases according to the relational access table created at step (e) (see O'Flaherty column 2 lines 57-62, column 4 lines 8-28 and lines 49-54) the implementation of different hierarchical levels of security to enforce the consumer data privacy (see O'Flaherty column 10 line 49-57) a dataview (virtual table) to create access control to all the data in the database (see O'Flaherty column 4 lines 8-30) with a foreign key (see Ng as applied to claim 1). These views are capable to generate SQL to manipulate data and store it to the result table (see O'Flaherty column 10 line 65 through column 11 line 3) each system user has access to the data according to his personal predefined view (see O'Flaherty column 8 lines 10-15) and other system users are prevented from having access to it, unless it is included in their dataview.

Art Unit: 2137

The modified O'Flaherty and Ng system fails to disclose that for at least two system users, based on the hierarchical level of access determination at step (c), that a second system user with a lower hierarchical level of access has access to the restricted data information that is a subset of the restricted data information to which a first system user with a higher hierarchical level of access has access and that the created relational access table for controlling the first and second system users' access to restricted data information such that the first system user will have one or more records in the relational access table that is keyed to the first system user's access to restricted data information that is determined at step (b) joined with the second system user's access to restricted data information that is determined at step (b), and the second system user will have one or more records in the relational access table that is keyed to the second system user's access to restricted data information that is determined at step (b).

However, Deinhart teaches an access control method that is designed on basis of the roles and responsibilities. Role types are organized hierarchically and "first role subsumes a second role type" (see column 5 line 25-35). A role with higher responsibility will include the access over a role with lower responsibility.

Art Unit: 2137

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Deinhart's role-based hierarchical access control method on a database system with the modified O'Flaherty and Ng system, because in this way one with higher access authority will have control over their own data as well as someone else's data underneath them and Data Integrity/Accuracy of the database is maintained thorough this hierarchical access control process (see Deinhart column 5 lines 25-35).

As per claims 9, 16, and 23 see the discussion of claim 2.

As per claims 10, 17, and 24 see the discussion of claim 3.

8. Claims 11-12, 18-19 and 25-26 are rejected under 35

U.S.C. 103(a) as being unpatentable over the modified

O'Flaherty, Ng, and Deinhart system as applied to claims 8, 15 and 22 above, and further in view of Date.

Claims 11-12, 18-19 and 25-26 are substantially similar to claims 4-5 and are rejected by the same logic.

9. Claims 13-14, 20-21, and 27-28 are rejected under 35

U.S.C. 103(a) as being unpatentable over the modified

O'Flaherty, Ng, and Deinhart system as applied to claims 8, 15, and 22 above, and further in view of Utley.

Claims 13-14, 20-21, and 27-28 are substantially similar to claims 6-7 and are rejected by the same logic.

Response to Arguments

10. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's arguments filed 07/15/2005 have been fully considered but they are not persuasive. Applicant argues that the combination of O'Flaherty and Deinhart (now O'Flaherty, Ng, and Deinhart) lacks "teaching, suggestion, or motivation to combine the reference". However, motivation is given in Deinhart: in this way one with higher access authority will have control over their own data as well as someone else's data underneath them and Data Integrity/Accuracy of the database is maintained thorough this hierarchical access control process (see Deinhart column 5 lines 25-35).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2137

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dingman et al, Hoover et al, and Sarkar teach the use of foreign keys.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pyzocha whose telephone number is (571) 272-3875. The examiner can normally be reached on 7:00am - 4:30pm first Fridays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the

Art Unit: 2137

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJP


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SUPERVISORY PATENT EXAMINER